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Bryde's Whale on the Coast of Iraq

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Introduction

As far as I know, there is no commercial whaling in the area of the Arabian Gulf. For this reason, research concerning whales in this area is limited to the study of such specimens as may be stranded on the coast of the Gulf, or in Shatt al Arab.

According to HATT (1959) there are no previous records of cetacean strandings except that of *Megaptera indica* Gervais, 1883, which can be strictly assigned to Iraq. CHEESMAN (1926), noted that the Humpback whale was an annual visitor to the Arabian Gulf and to the coast of Arabia.

A single vertebra and the rib of a whale which are said to have been found about 1954 during the construction of a well near Fao, are now in the Natural History Museum of Iraq. There is an old report that a Turkish gunboat killed this whale about a century ago in Shatt al Arab, the bones subsequently being carried to the village. Several people in Southern Iraq have told me that about 70 years ago, the farmers in a village near Qalat Salih on the river Tigris had killed a large whale which swam into a bend in the river which was very narrow. This narrow reach was so shallow as to prevent the passage of most ships.

Prof. Dr. MILUK, Head, Department of Zoology at Kuwait University gave me personal information that two whales had stranded on the Kuwait coast. The skeleton of one of these is now in the Zoological Gardens, Kuwait, whilst the other is buried on the shore of a Kuwaiti island for preservation and conservation.

The specimen of *Balaenoptera edeni* Anderson, 1878, from Port Umm Qasr, was stranded on the coast of Southern Iraq on 5th February 1967 and was transported by a ship belonging to the Iraqi General Port Directorate (see also MAHDI, 1967). It was found in Khor al Zobeir four miles north-west from Port Umm Qasr, in the area between 30 and 25 north latitude and was brought to the Bank of Umm Qasr. The General Port Directorate also informed me that on 1st March 1967, another whale was seen swimming in the waters of Khor Abdulla twelve miles south of Umm Qasr by an Iraqi ship. Although the ship was very near to the animal, nobody could identify the species.

Research in marine biology in the whole of the Arabian Gulf and Shatt al Arab needs a great deal of work on many scientific projects to elucidate the ecology and biology of the area. The new Basra University which was inaugurated in 1964 will have, as one its first objectives, a general research programme for the Gulf.

Materials and Methods

The carcass of the whale was examined in detail and many "black and white" photographs were taken. A color film was also made and the observed characteristics compared with those of the published records of other balaenopterids. In collaboration with Dr. P. E. PURVES of the British Museum (Natural History) it was agreed that the specimen was that of *Balaenoptera edeni*. The external characters did not differ materially from those which were described by GIBSON-HILL (1950). The dorsal surface was uniformly bluish black, fading into a paler shade of gray on the ventral surface. The throat grooves were dark gray in colour ventrally, but becoming much lighter on the lateral aspect and almost totally white posteriorly. The baleen plates were black and relatively very short compared with those of the other balaenopterids, (fig. 1). The distal ends of the blades, on the oral aspect of the buccal cavity were broken into thickly matted, yellow fibres of a much coarser texture than those of *B. borealis*. Lesson, 1828. Immediately ventral to the flippers, which were very short, there were large patches of pale gray. The dorsal surface of the head was marked by a pair of anteroposteriorly directed ridges (fig. 2) on either side of a medium ridge as described by OMURA (1967). These ridges indicated the position of a series of tactile hairs.

Although the penis was distended and of such dimension as to indicate that the animal was a male, there was, posterolaterally to the penis, a pair of well defined, mammary slits (fig. 3) into which, according to Dr. YUSUF ARAB, Dean of the Faculty of Science, Basra, a man was able to insert his hand. It is unfortunate that no dissection was carried out at this time to ascertain the bisexuality or otherwise of this animal, because although mammary slits are not unknown amongst male cetaceans, these seemed exceptionally large.

Another feature of this specimen which distinguished it from *B. borealis* was the shape of the tail flukes (fig. 4), which were strongly tapered and posteriorly directed at their distal extremities. In *B. borealis* the "trailing edge" of the flukes lies for the most part, on an axis at right-angles to the longitudinal axis of the body. The dorsoventral height of the tail stock was also relatively much shorter than of *B. borealis*. The

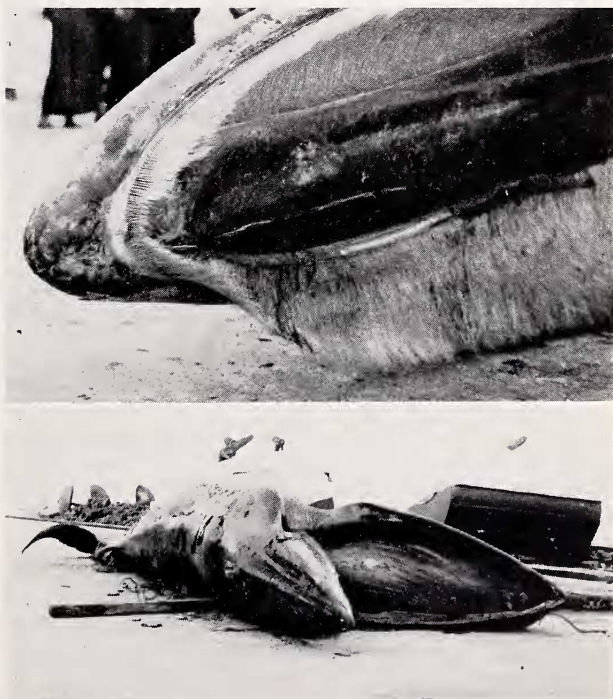


Fig. 1 (above). Roof of oral cavity of *Balaenoptera edeni* stranded at Umm Qasr, Iraq, showing fringes of baleen plates — Fig. 2 (below). Dorsal view of head of same animal showing convergent ridges

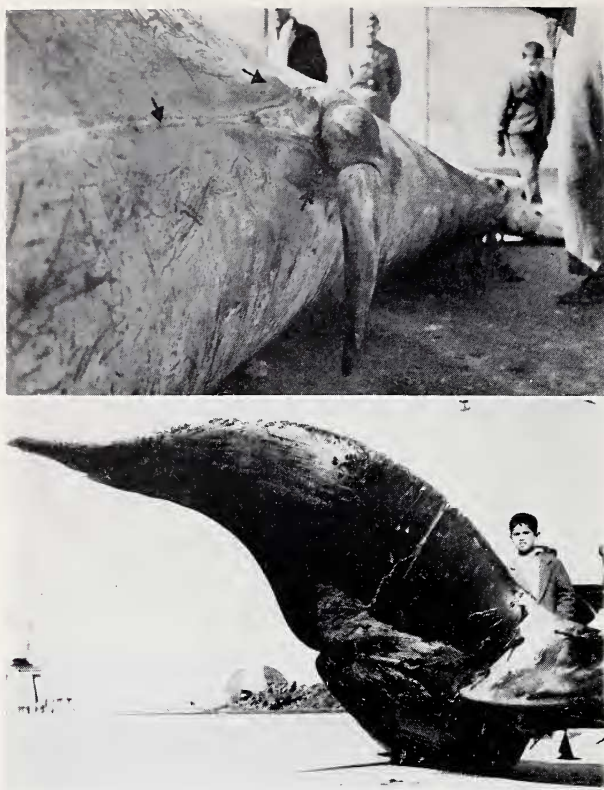


Fig. 3 (above). Ventral view of same animal, showing mesial groove and mammary slits — Fig. 4 (below). Same animal, dorsal view of flukes showing posterior curvature of „trailing edge“

groove as well as the great length of the throat grooves is a diagnostic feature of this species.

latter characteristics, if common to all members of the species, should provide a ready means of identification during the process of “sounding”. The flukes also showed evidence, from the cinematograph, of considerable flexibility in the dorsal direction.

The total length of the body was 41 feet (1250 cm) and the animal was apparently sexually mature. BEST (1960) found from histological examination of the testes from 427 Bonin Island specimens that sexual maturity in the male occurs when the animals are from 39–40 feet (1180–1220 cm) in length. The throat grooves in this specimen extended to about two metres from the genital aperture, with a single, median groove extending as far as the penis (fig. 3). The presence of this, single, median

The World Distribution of Bryde's Whale

Whales following the general description given above have been recorded in various parts of the world under the two names *Balaenoptera edeni* Anderson, 1878 and *Balaenoptera brydei* Olsen, 1912. However, JUNGE (1950) has shown that these two formes are conspecific so that it is now possible to draw up a world list of distribution in chronological order, see fig. 5.

ANDERSON (1878)	Burma, Martaban
OLSEN (1913)	S. Africa, Saldanha Bay, Durban
KELLOGG (1931)	Lower California
FRASER (1937)	Norway (identification very doubtful)
MACKINTOSH (1947)	West Indies
JUNGE (1950)	Singapore
RUUD (1952)	Angola, Congo, French Equatorial Africa
HARRISON and JAMUH (1958)	Borneo
CHITTLEBOROUGH (1959)	West coast of Australia

OMURA (1959)	Japan
SOOT-RYEN (1961)	Curaçao
OMURA (1962)	Brazil
NASU (1966)	Formosa
MAHDI (1967)	Umm Qasr, Iraq
ROBAAE (1968)	Umm Qasr, Iraq

It will be seen that this latest record is still between 40° N and 40° S latitudes and in the surface water temperature between the isotherms of 20° C in summer in the Northern and Southern hemispheres, thus tending to corroborate OMURA's (loc. cit.) contention that Bryde's whale is a tropical and subtropical species.

Discussion

Although the stomach contents of this whale were not examined, it is interesting to speculate upon the latter's presence at Umm Qasr during February 1967. BEST (1967) has divided the South African population into two types, an inshore race, which may be present all the year round but especially during winter, and an offshore race, which is seasonal in its appearance, occurring at the beginning and at the end of the winter. The inshore race feeds predominantly on small fish such as anchovy, maasbanker and pilchard, anchovy being by far the most numerous. The offshore variety feeds upon a mixture of krill (Euphausiids) and offshore fish such as *Maurolicus*, *Lestidium*, *Scomberesox* and Scombrid. MAHDI (1956) has reported that several species of marine fish invade the lower reaches of rivers and southern lakes of Iraq to breed and that anchovies have been found as far up as Basra. These facts might indicate that the Umm Qasr specimen was one of the inshore variety which had followed anchovies into Khor Abdulla and become stranded at low tide. If the whale sighted 4 miles off Umm Qasr

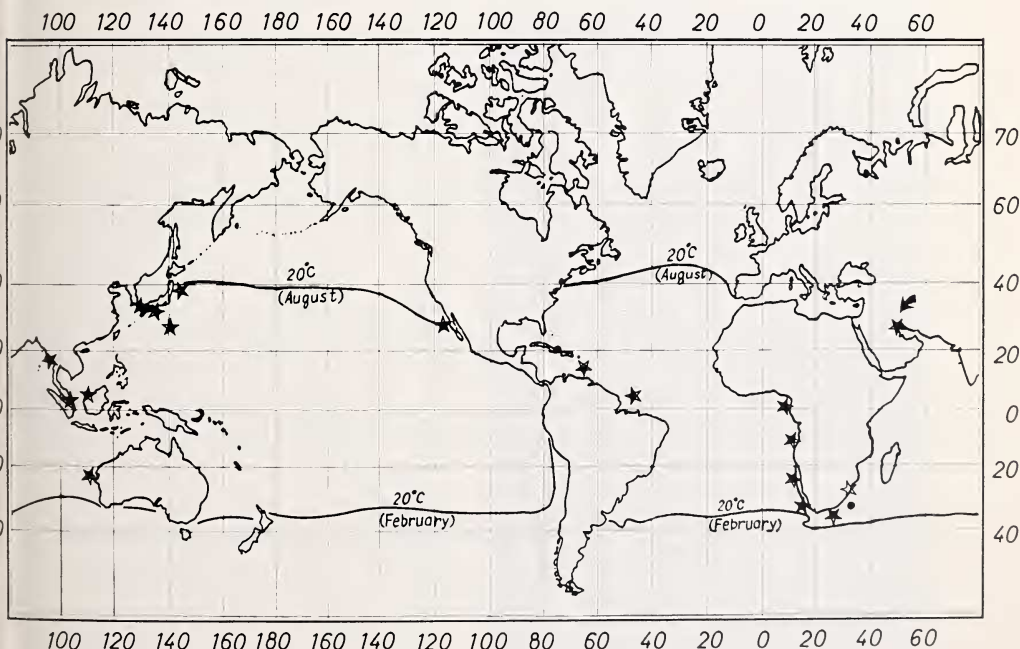


Fig. 5. World distribution map of *Balaenoptera edeni* (after OMURA, 1959)

on 1st March was also Bryde's whale, the presence of migratory small fish at this time of the year would be almost a certainty and corroborative evidence from biological fieldwork is clearly needed. Now the average depth of the water at Umm Qasr at high and low water as taken from Admiralty charts is 15.6 feet and 13.9 feet respectively. This is relatively shallow water for an animal the size of Bryde's whale and it is doubtful whether they would venture into these waters in normal circumstances. However, the high water mark during the Spring tide is nearly 18 feet and the whales might be persuaded to enter the narrows if they were following fish shoals. The low water mark at Spring tide is only 1.5 which would mean the inevitable stranding of the animal if it did not follow the ebb tide.

It is well known that in narrow channels of the Khor Zobeir and the Khor Sakaa type, the flood and ebb tides take place extremely rapidly, with a fair period of slack-water in between. If these were the circumstances which prevailed at the time, I consider that the stranding was inevitable.

From a study of the body proportions, OMURA (1959), proved that the anterior part of the body is larger, and the posterior part shorter in *B. edeni* compared with *B. borealis*. I submit that herein lies the importance of the comparative lengths of the ventral grooves as diagnostic features between the two species. It has long puzzled cetologists that although the throatal grooves are associated with the manner of feeding in balaenopterid whales, they always extend well beyond the posterior limits of the mouth. Since the flow of water along these grooves must sometimes be extremely rapid, there would be considerable danger of the skin splitting at the posterior extremities of the grooves if the latter were not extended well beyond the point of maximum cross section of the body to the area where the natural "breakaway" of the boundary layer would occur. It follows that the more posterior the point of maximum cross section lies with respect to the total length, the greater will be the relative posterior extension of the grooves. Hence, with its greater anterior body proportions *B. edeni* has longer ventral grooves than *B. borealis*.

Acknowledgements

Grateful acknowledgements are due to Dr. YUSIF ARAB, Dean of the Faculty of Science, Basrah University, to Dr. J. P. HARDING, Keeper of Zoology, who gave me the opportunity to work at the British Museum (Natural History) and to Dr. P. E. PURVES and Dr. F. C. FRASER for help in the preparation of the manuscript. The author also wants to thank the editors of the Zeitschrift für Säugetierkunde for their help in checking bibliographical data.

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Everhard Johannes Slijper in memoriam

Am 16. Dezember 1968 ist Prof. Dr. E. J. SLIJPER im Alter von 61 Jahren plötzlich gestorben.

EVERHARD JOHANNES SLIJPER wurde am 7. September 1907 in Bolsward geboren. In seiner Jugend wohnte er in Bolsward, Rotterdam und Utrecht. Er studierte Biologie von 1926 bis 1932 an der Reichsuniversität Utrecht, wo er das Doctoralexamen cum laude bestand.

Im Jahre 1931 erschien seine erste Veröffentlichung über Cetacea: Über Verletzungen und Erkrankungen der Wirbelsäule und Rippen bei den Cetaceen (Anato. Anz. 71, Seite 11). Von dieser Zeit an forschte er intensiv über die Anatomie der Wale; für diese Untersuchungen arbeitete er in Instituten und Museen

